

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

RE: PRELIMINARY AMENDMENT

In the Office Action, the Examiner has only acted upon claims 1-8. It is respectfully pointed out, however, that a Preliminary Amendment was filed with the original application papers in which the multiple dependencies of claims 5-7 were canceled. Claims 9 and 10 were added corresponding to claim 5 respectively depending from claims 3 and 4; claims 11 and 12 were added corresponding to claim 6 respectively depending from claims 3 and 4; claims 13 and 14 were added corresponding to claim 7 respectively depending from claims 3 and 4; and claims 15 and 16 were added corresponding to claim 8 respectively depending from claims 13 and 14. Accordingly, it is respectfully requested that the Examiner act on all of claims 1-16 in the next action.

RE: THE ALLOWABLE SUBJECT MATTER

The Examiner's indication of the allowability of the subject matter of claim 8 is respectfully acknowledged. Claim 8, however, has not been rewritten in independent form at this time since, as set forth in detail hereinbelow, it is respectfully submitted

that its parent claim 1, as amended, also recites allowable subject matter.

RE: THE CLAIM AMENDMENTS

Claim 1 has been amended to clarify the feature of the present invention whereby the rotation-restricting means restricts directions of rotations of the cable-holding member such that the cable-holding member must first rotate about a first axis extending in a direction of width of the flat cable to allow the cable-holding member to rotate about a second axis orthogonal to the first axis and extending in a direction of insertion of the flat cable, as supported by the disclosure in the specification at page 14, lines 1-24.

In addition, claims 1-16 have been amended to make some minor grammatical improvements and/or to correct some minor antecedent basis problems so as to place the claims in better form for issuance in a U.S. patent.

It is respectfully submitted that the amendments to the claims are clarifying in nature only and are not related to patentability and do not narrow the scope of the claims either literally or under the doctrine of equivalents.

No new matter has been added, and it is respectfully requested that the amendments to the claims be approved and entered.

RE: THE PRIOR ART REJECTION

Claims 1-7 were all rejected either under 35 USC 102 or under 35 USC 103 as being anticipated by or obvious in view of USP 5,735,707 ("O'Groske et al"). These rejections, however, are respectfully traversed with respect to claims 1-16 as amended hereinabove.

According to the present invention as recited in amended claim 1, a connector for a flat cable is provided which comprises a housing adapted to have an end of the flat cable inserted therein; a cable-holding member mounted in the housing for holding the flat cable; a concave portion formed in the housing; a convex portion formed on the cable-holding member and slidably fitted in the concave portion; and rotation-restricting means for restricting directions of rotations of the cable-holding member such that the cable-holding member must first rotate about a first axis extending in a direction of width of the flat cable to allow the cable-holding member to rotate about a second axis orthogonal to the first axis and extending in a direction of insertion of the flat cable.

It is respectfully pointed out that the present invention relates to a connector for a flat cable (a cable which is wide and thin in cross-section). A flat cable can be bent in the direction of thickness thereof (the thin direction in cross section), but not in the direction of width thereof (the long

direction in cross-section). If a flat cable is bent in the width direction thereof during routing, a conductor wire or an optical fiber within the flat cable is sometimes broken. However, a conventional connector for a flat cable does not account for the difficulties of bending a flat cable in the width direction thereof and simply holds the flat cable, and is fixed to the housing. Therefore, when the conventional connector is fitted to a mating connector fixed to a casing, a direction in which the flat cable can be routed or bent is limited to the direction of thickness of the flat cable. (See the disclosure in the specification at page 1, line 21 to page 2, line 9.)

The present invention as recited in claim 1 solves this problem faced by flat cables by providing a connector which includes a cable holding member which can be turned in the housing. The flat cable is prevented from being bent in the width direction thereof by rotation-restriction means which requires that the cable-holding member first be rotated about the first axis (axis ws shown in Fig. 1) before the cable-holding member can be rotated about the second axis (axis is shown in Fig. 1) to face the direction of routing. The flat cable can then be bent in the thickness direction thereof toward the direction of routing.

By contrast, O'Groske et al cited by the Examiner is related to a circular cable (see Figs 1-5 and column 1, line 28 wherein

the cable is described as having a diameter). And it is respectfully pointed out that a circular cable as disclosed by O'Groske et al is not limited in the directions that it can be bent, unlike the flat cable according to the claimed present invention. That is, the connector for a circular cable disclosed by O'Groske et al permits rotation of the cable in both the y-axis and z-axis shown in Fig. 1 in O'Groske et al. By contrast, the flat cable according to the present invention can only be safely rotated about a single axis (bent in the thickness direction thereof). Thus, it is respectfully submitted that O'Groske et al does not even encounter the above described problem which is solved by the claimed present invention, and it is respectfully submitted that O'Groske et al allows cable motion in directions in which a flat cable cannot move.

In addition, it is respectfully pointed out that O'Groske et al specifically discloses that the cable 40 thereof is prevented from moving in the longitudinal direction of the cable (column 3, lines 19-22 and column 4, lines 9 and 10). By contrast, according to the present invention as recited in claim 1, the cable-holding member must first rotate about a first axis extending in a direction of width of the flat cable to allow the cable-holding member to rotate about a second axis orthogonal to the first axis and extending in a direction of insertion of the flat cable. As shown in Fig. 1 of the present application, axis is in the

insertion direction of the flat cable corresponds to the longitudinal axis of the cable 40 of O'Groske et al. Thus, O'Groske et al discloses that the electrical connector 10 specifically prevents the cable 40 from performing one of the features of the present invention as recited in claim 1.

Accordingly, it is respectfully submitted that O'Groske et al does not at all disclose, teach or suggest the features of the present invention as recited in amended claim 1 whereby a connector is provided for a flat cable and whereby the connector comprises rotation-restricting means for restricting directions of rotations of said cable-holding member such that said cable-holding member must first rotate about a first axis extending in a direction of width of the flat cable to allow the cable-holding member to rotate about a second axis orthogonal to the first axis and extending in a direction of insertion of the flat cable.

In view of the foregoing, it is respectfully submitted that the present invention as recited in amended independent claim 1, as well as each of amended claims 2-16 depending therefrom, clearly patentably distinguishes over O'Groske et al, under 35 USC 102 as well as under 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

Application No. 10/618,423
Response to Office Action

Customer No. 01933

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



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